

# Mathematics and Industry

**Mathematics provides a universal framework for innovation, which is vital for society and industry. However, the interaction between mathematics and industry is far from optimal. Consequently, a strong inter-connected community and a vision for Europe are needed more than ever.**



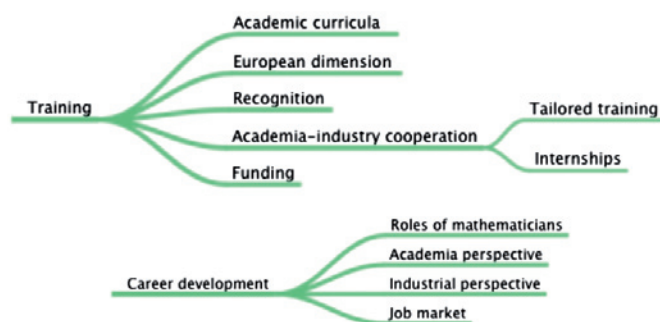
The goal of the Forward Look 'Mathematics and Industry' is to explore ways of stimulating and/or intensifying the collaboration between Mathematics and Industry. It will enable Europe's scientific community, in interaction with policy makers, to develop medium- to long-term views and analyses of future research activities with the aim of defining research agendas at national and European level. It is expected that it will impact society by strengthening the mathematical knowledge base of a wide spectrum of research-intensive industries.

## Working Group 1: Training, Jobs and Careers

*Coordinator:* Magnus Fontes (Member of the ECMI Council and chairman of its Educational Committee)

### Deliverables:

- Recommendations for stronger European connections in national educational systems
- Best practices in Education in Industrial Mathematics
- Increasing its awareness as a discipline
- Best practices in Academia-Industry collaborations in Education



## Working Group 2: Academia-Industry Interface

*Coordinator:* Volker Mehrmann (Vice-chair of the EMS Applied Mathematics Committee, Chair of Matheon)

### Deliverables:

- Recommendations for stronger Academia-Industry interface
- Survey of existing collaborations and needs
- Interviews with consulting companies
- Development of national strategies and a European Strategy



## Working Group 3: Opportunities and Challenges

*Coordinator:* Yvon Maday (President of the scientific council of SMAI and manager of the industrial relations of the Fondation Sciences Mathématiques de Paris)

### Deliverables:

- Recommendations on new opportunities for Europe
- Report on challenges for SMEs and large companies and opportunities to build a European Community in this field
- Identification of strategic opportunities



# Organising Committee

---

**Professor Mario Primicerio** (Chair)

Istituto Matematico "Ulisse Dini" • Università degli Studi  
Viale Morgagni 67/A • 50134 Firenze • Italy  
Email: mario.primicerio@math.unifi.it

**Professor Maria J. Esteban**

CNRS – CEREMADE  
Université Paris-Dauphine  
Place du Maréchal de Lattre de Tassigny  
75775 Paris cedex 16 • France  
Email: esteban@ceremade.dauphine.fr

**Professor Magnus Fontes**

Centre for Mathematical Sciences – Lund University  
Box 118 • 22100 Lund • Sweden  
Email: fontes@maths.lth.se

**Professor Yvon Maday**

CNRS UMR 7598 • Laboratoire Jacques-Louis Lions  
Université Pierre et Marie Curie  
Boîte courrier 187 • 75252 Paris cedex 05 • France  
Email: maday@ann.jussieu.fr

**Professor Volker Mehrmann**

Institut f. Mathematik • TU Berlin  
MA 4-5 • 10623 Berlin • Germany  
Email: Mehrmann@math.tu-berlin.de

**Professor Goncalo Quadros**

Critical Software SA • Parque Industrial de Taveiro  
Lote 48 3045-504 Coimbra • Portugal  
Email: quadros@criticalsoftware.com

**Professor Wil Schilders**

NXP Semiconductors • HTC 46  
5656 AE Eindhoven • The Netherlands  
Email: wil.schilders@nxp.com  
TU Eindhoven • Fac. Mathematics and Computer Science  
PO Box 513 • 5600 MD Eindhoven • The Netherlands  
Email: w.h.a.schilders@tue.nl

**Professor Andreas Schuppert**

Process Technology – E41  
Bayer Technology Service GmbH  
51368 Leverkusen • Germany  
Email: Andreas.schuppert@bayertechnology.com

**Dr. Heather Tewkesbury**

KTN for Industrial Mathematics  
Surrey Technology Centre • Surrey Research Park  
Guildford GU2 7YG • United Kingdom  
Email: ht@industrialmaths.net

---

**ESF Liaison****Dr. Thibaut Lery**

Science

**Ms. Chantal Durant**

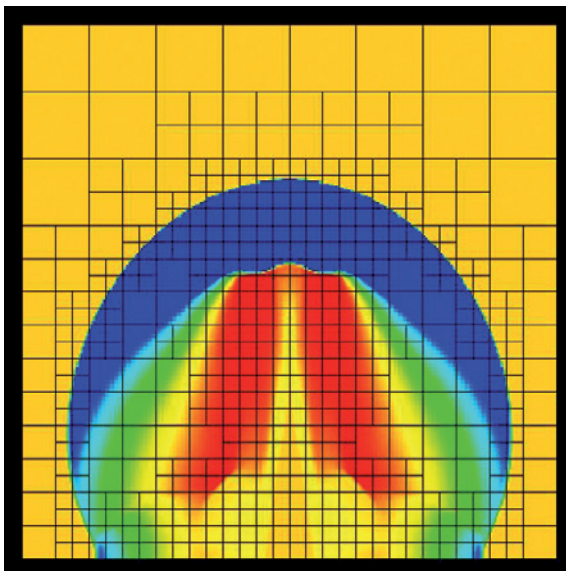
Administration

Physical and Engineering Sciences Unit  
European Science Foundation  
1 quai Lezay-Marnésia • BP 90015  
67080 Strasbourg cedex • France  
Tel: +33 (0)3 88 76 71 27  
Fax: +33 (0)3 88 37 05 32  
Email: cdurant@esf.org

For the latest information on this Forward Look  
consult the following websites:

[www.esf.org/mathematics](http://www.esf.org/mathematics)

[www.ceremade.dauphine.fr/FLMI](http://www.ceremade.dauphine.fr/FLMI)



---

## List of activities

- **Kick-off Meeting**  
CNR, Rome, 16-17 April 2009
- **Workshop of WG1**  
Lund, 30 May 2009
- **Workshop of WG2**  
Berlin, 10 June 2009
- **Workshop of WG1 and WG3**  
Berlin, 15 June 2009
- **Workshop of WG1**  
Wroclaw, 27-30 August 2009
- **Workshop of WG1**  
Dresden, 10 September 2009
- **Workshop of WG3**  
Paris, 23 October 2009
- **Alignment Workshop**  
ESF, Strasbourg, 16-17 November 2009
- **Consensus Conference**  
Spanish EU Presidency 2010  
Madrid, 26-27 April 2010
- **Final Conference**  
Belgian EU Presidency Autumn 2010

**ESF Forward Looks**

ESF Forward Looks provide medium- to long-term authoritative visions on science perspectives in broad areas of research bringing together ESF Member Organisations, other research organisations and the scientific community in creative interaction. Forward Look reports and other outputs such as ESF Science Policy Briefings assist policy makers and researchers in defining optimal research agendas and in setting priorities. Quality assurance mechanisms, based on peer review where appropriate, are applied at every stage of the development and delivery of a Forward Look to ensure its credibility and impact.

[www.esf.org/flooks](http://www.esf.org/flooks)

The European Science Foundation (ESF) provides a platform for its Member Organisations to advance science and explore new directions for research at the European level. Established in 1974 as an independent non-governmental organisation, the ESF currently serves 80 Member Organisations across 30 countries.